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Attorney Docket No.: 11284 (NCR.0117US)
Date: September 24, 2007

DCH/gky

Applicant(s): GANG LUO ET AL.
Serial No.: 10/694,564
Filing Date: October 27, 2003
Title: GROUPING DATABASE QUERIES AND/OR TRANSACTIONS

1. Reply Brief.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Gang Luo et al.	§	Art Unit:	2161
Serial No.:	10/694,564	§		
Filed:	October 27, 2003	§	Examiner:	Brent S. Stace
For:	Grouping Database Queries and/or Transactions	§	Atty. Dkt. No.:	11284 (NCR.0117US)

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REPLY BRIEF

Sir:

The following provides Appellant's Reply to the Examiner's Answer dated July 24, 2007.

I. REPLY TO EXAMINER'S ANSWER REGARDING INDEPENDENT CLAIMS 1 AND 22.

In the Examiner's Answer, the Examiner continued to contend that "it appears that applicant does not understand how the references were and are combined." Examiner's Answer at 16. Then the Examiner proceeded to identify isolated teachings of the references and to combine the isolated teachings in piecemeal fashion using impermissible hindsight that benefits from the teachings of the present invention. *See id.* The Examiner stated that MathLeague, p. 7, is combined with Walter, p. 168, ¶ C, with Gu, col. 1, lines 25-37 and 49-67 to reject the claims.

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The Examiner first argued that "the transactions of Walter are the sessions in the claim."

Id. The Examiner then argued that the "multiplication of 12 on the left hand side of the equation [on page 7 of MathLeague] is one transaction while the multiplication of 12 on the right hand side is a second transaction." *Id.* The Examiner then argued that "[t]hese transactions are grouped together in Walter as being in the same commit scope so both sides would be modified on commit (to maintain the equivalence in the equation), thus solving/simplifying transactions like the cited transaction of Gu." *Id.*

The problem with the Examiner's analysis is that the combined references still does not teach or hint at *re*-allocating transactions between or among the sessions such that the identified transactions that operate on the same set of one or more tuples are allocated to one of the sessions. The Examiner identified the *transactions* of Walter as being the *sessions* of claim 1. Then the Examiner identified the two sides of the equation on page 7 of MathLeague as being two transactions. There is no hint in any of the cited references, whether explicit or implicit, of *re*-allocating the two sides of the equation on page 7 of MathLeague between or among the transactions of Walter. The Examiner is construing the two sides of equation on page 7 of MathLeague as two separate transactions, and then arguing, without any support in the references, that these two transactions would be *re*-allocated between or among the transactions of Walter.

The Examiner further argued that "re-allocating transactions between or among the sessions such that the identified transactions that operate on the same set of one or more tuples are allocated to one of the sessions" "is seen as combining the sequence of transactions into a single atomic statement (like I [sic] Gu, col. 1, lines 25-37)." Examiner's Answer at 17. The cited passages in Gu refer to combining a sequence of INSERT and UPDATE commands into a

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single atomic statement. Combining the commands of Gu refer to combining SQL statements—there is no teaching or hint of *re-allocating* transactions between or among sessions.

It is clear that even if Gu, Walter, and MathLeague can be combined, the hypothetical combination of the teachings of all three references fails to teach or hint at the combination of the identifying and re-allocating steps of claim 1. This is a first reason that a *prima facie* case of obviousness has not been established with respect to claim 1.

In the Examiner's Answer, the Examiner provided another example:

For instance, consider the following session with corresponding transactions:

- A. Session1:
- B. Transaction1 $n=n+4$ (increments the value of n by 4)
- C. Transaction2 $n=n-2$
- D. Transaction3 $n=n-6$
- E. Transaction 4 $n=n+14$

Examiner's Answer at 17.

According to the Examiner, MathLeague's simplification of problems would lead one to "simplify/group the above transactions 1-4 into a single transaction $n=n+10$ (like Gu teaches a combining of different commands into one atomic statement) since doing the sequence of transactions results in $n=n+10$." *Id.*

Grouping the transactions 1-4 in the Examiner's example does not provide any hint of the subject matter recited in claim 1, which specifies identifying transactions that operate on the same set of one or more tuples, and re-allocating transactions between or among the sessions such that the identified transactions that operate on the same set of one or more tuples are allocated to one of the sessions. The re-allocation of transactions between or among sessions is clearly not contemplated in the example given by the Examiner.

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On the next page of the Examiner's Answer, the Examiner provided another example:

Considering a different but yet similar scenario

- Session1 (parent):
 - Transaction1.1 $n=n+4$
 - Transaction1.2 $n=n-2$
 - Session2 (child)
 - Transaction2.1 $n=n-6$
 - Transaction2.2 $n=n+14$

Examiner's Answer at 18.

The Examiner states that, "[a]ccording to Walter, when the parent session1 commits, the child session2 will also commit." *Id.* However, the key to the teachings of Walter is that transactions belonging to the same commit sphere commit atomically together, and that commitment of an inner sphere can be done early within the commitment of an outer sphere. Walter, p. 168, ¶ C. Committing transactions in different spheres atomically together, as disclosed by Walter, is completely unrelated to *re-allocating* transactions between or among the *sessions* such that the identified transactions operate on the same set of one or more tuples are allocated to *one of the sessions*.

The Examiner further made the following un-supported conclusion:

Upon the database seeing that the parent and child modify the same number/variable (seeing that simplification can occur), the database will simplify the transactions/sessions into one statement $n=n+10$ (Gu) like the above example according to the teachings/simplification ideas of MathLeague.

Id.

Walter provides no hint, and neither does Gu or MathLeague, of re-allocating transactions in the manner recited in claim 1.

Thus, the Examiner has still failed to establish that the hypothetical combination of Gu, Walter, and MathLeague discloses or hints at all elements of claim 1.

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The obviousness rejection is further defective because the Examiner has failed to establish that there existed any reason to lead a person of ordinary skill in the art to combine the teachings of Gu, Walter, and MathLeague to achieve the claimed invention. *See KSR International Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741, 82 U.S.P.Q.2d 1385 (2007). As discussed above, none of the references provide any hint of re-allocating transactions that operate on the same set of one or more tuples between or among sessions such that the identified transactions that operate on the same set of one or more tuples are allocated to one of the sessions. Therefore, a person of ordinary skill in the art clearly would not have been led to the claimed invention. The only basis for combining the references is impermissible hindsight based on teachings of the present invention. Without the teachings of the present invention, it is clear that a person of ordinary skill in the art would not have been led to the claimed invention by the reference teachings. A *prima facie* case of obviousness has not been established for at least this additional reason.

For the foregoing reasons, and for the reasons stated in the Appeal Brief, reversal of the final rejection of independent claims 1 and 22 (and their dependent claims) is respectfully requested.


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II. CONCLUSION

The remaining additional claims are allowable for the reasons stated in Appellant's Appeal Brief. In view of the foregoing, reversal of all final rejections and the allowance of all claims is respectfully requested.

Respectfully submitted,

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